INDEX OF AUTHORS' NAMES.

TRANSACTIONS. 1879.

A.

Armstrong, H. E., and W. A. Tilden, on the action of sulphuric acid on the hydrocarbons of the formula $C_{10}H_{16}$, 733.

Attwood, G., on a gold nugget from South America, 427.

—— quantitative assay of the ores and compounds of mercury by the blowpipe, 207.

Auerbach, G., alizarin-blue, 799.

B.

Baker, H., a study of certain cases of isomorphism, 760.

Baker, William, obituary notice of, 265.

Baker. See also Sugiura.

Bird, Alfred, obituary notice of, 266.

Blyth, A. W., the composition of cows' milk in health and disease, 530.

Brodie, B. C., on the decomposition of the simple weight χ effected by Victor Meyer, 673.

Brown, F. D., theory of fractional distillation, 547.

Brown, H. T., and J. Heron, contributions to the history of starch and its transformations, 596.

Burney. See Humpidge.

C.

Campbell. See Mills.

Carnelley, T., and W. C. Williams, on the boiling points of certain metals and metallic salts, 563.

Church, A. H., a chemical study of vegetable albinism, 33.

Cross, C. F., rehydration of metallic oxides, 796.

Cross, C. F., and A. Higgin, on the decomposition of water by certain metalloïds, 249.

Cross. See also Sugiura.

D.

Dale, R. S., and C. Schorlemmer, note on safranine, 682.

—— —— on aurin. Part II, 148.

—— —— suberic and azelaïc acids, 683.

—— —— transformation of aurin into trimethylpararosaniline, 562.

Dobbie, J. J., and W. Ramsay, on the decomposition-products of quinine and the allied alkaloïds. Second paper: oxidation of quinine, quinidine (conquinine), cinchonine, and cinchonidine, with permanganate, 189.

Dupré, A., and H. W. Hake, on two new methods for the estimation of minute quantities of carbon: (1) gravimetric, (2) chromometric, and their application to water analysis, 159.

F.

Fenton, H. J. H., comparison of the actions of hypochlorites and hypobromites on some nitrogen compounds, 12.

—— the action of phosgene on ammonia, 793.

Fisher, W. W., on lead tetrachloride, 282.

Foster, W., the action of alkaline hypobromite on oxamide, urea, and potassium ferrocyanide. Part II, 119.

Frankland, E. and A. Lawrence, on plumbic tetrethide, 244.

—— —— on stannic ethide, 130.

G.

Gladstone, J. H., and A. Tribe, investigations into the action of substances in the nascent and occluded conditions. Hydrogen (continued), 172.

Gladstone, J. H., and A. Tribe, on dry copper-zinc couples and analogous agents, 567.
—— —— researches on the action of the copper-zinc couple on organic bodies. Part IX. Preparation of zinc-methyl, 107.
Grosjean, B. J., on the determination of tartaric acid in lees and inferior argols, with some remarks on filtration and precipitation, 341.
Groves. See Stenhouse.

H.

Hake. See Dupré.
Hannay, J. B., examination of substances by the time method. Part I. Hydrates, 456.
—— on the action of bromine upon sulphur (additional note), 16.
—— on the action of chlorine upon iodine, 169.
Heron. See Brown.
Higgin. See Cross.
Humpidge, J. S., and W. Burney, on erbium and yttrium, 111.

J.

James, J. W., on ethylene chlorothiocyanate and its oxidation into chlorethylsulphonic acid, 806.
Japp, F. R., on the action of organozinc compounds on quinones (preliminary note), 526.
Johnson, G. S., on the occlusion of hydrogen by copper, 232.
Jones, F., on a hydride of boron (preliminary note), 41.

K.

Kuhara, M., contributions from the laboratory of the University of Tôkio, Japan:—(1) on the red colouring matter of the *Lithospermum erythrorhizon*, 22.

L.

Lawrence. See Frankland.
Luff. See Wright.
Lyttle, W. A., obituary notice of, 265.

M.

Malaguti, M., obituary notice of, 266.
Mallet, J. W., on chlor-stannic acid, 524.
Menke. See Wright.
Mills, E. J., and L. Campbell, researches in dyeing. Part II. Note on the emission of colouring matter, 290.
Mills, E. J., and J. W. Pratt, on the action of oxides on salts. Part II. 336.
Mills, E. J., and G. Thomson, researches in dyeing. Part I. Silk and rosaniline, 26.
Mueller, Baron F. von, and L. Rummel, note on two new vegeto-alkaloïds, 31.
Muir, M. M. P., contributions from the laboratory of Gonville and Caius College, Cambridge. No. 1. On the conditions affecting the equilibrium of certain chemical systems. No. 2. On the action of aqueous hydrochloric acid upon bismuthous chloride, 311.

N.

Nakamura, T., on a new method of determining sulphur in coal, 785.

O.

O'Sullivan, C., on the transformation-products of starch, 770.

P.

Pattinson, J., on a method of precipitating manganese entirely as dioxide, and its application to the volumetric determination of manganese, 365.
Perkin, W. H., on mauveine and allied colouring matters, 717.
—— on the action of isobutyric anhydride on the aromatic aldehydes, 136.
Pickering, S. U., on the action of hydrochloric acid on manganese dioxide, 654.
Pratt. See Mills.

R.

Rammelsberg, C., on the composition of lithia-micas, 19.

Rammelsberg, C., on the determination of lithia by phosphate of soda, 18.
Ramsay, W., on the heat of formation of aniline, picoline, toluidine, lutidine, pyridine, dipicoline, pyrrol, glycerol, and furfuraldehyde, 696.
—— on the volumes of liquids at their boiling points, obtainable from unit-volumes of their gases, 463.
Ramsay. See also Dobbie.
Rennie. See Wright.
Rummel. See Mueller.

S.

Schorlemmer. See Dale.
Schunck, E., notes on the purple of the ancients, 589.
—— on indigo-purpurin and indirubin, 528.
Sell, W. J., on the volumetric determination of chromium, 292.
Smith, A. J., the bromine derivatives of β-naphthol, 789.
Smith, Watson, preliminary note on certain compounds of naphthalene and benzene with antimony trichloride, &c., 309.
—— the isomeric dinaphthyls, 224.
Stenhouse, J., and C. E. Groves, on gardenin, 688.
Stewart, W. A., obituary notice of, 266.
Sugiura, S., and H. Baker, note on the magnesium vanadates, 715.
Sugiura, S., and C. F. Cross, on the formation of barium periodate, 118.

T.

Thomas, J. W., on some points in the analysis of combustible gases, and in the construction of apparatus, 213.
Thomson, J. M., on the action of isomorphous salts in exciting the crystallisation of supersaturated solutions of each other, and some experiments on supersaturated solutions of mixed salts, 196.
Thomson, J. S., notes on the dissociation of ammonia iron alum, 811.
Thorpe, T. E., a contribution to the theory of fractional distillation, 544.
—— on heptane from *Pinus sabiniana*, 296.
Tidy, C. M., the processes for determining the organic purity of potable waters, 46.
Tilden, W. A., on terpin and terpinol, 286.
Tilden. See also Armstrong.
Tribe. See Gladstone.

W.

Warington, R., on nitrification. Part II, 429.
—— on the determination of nitric acid as nitric oxide by means of its action on mercury, 375.
—— on the determination of nitric acid by means of indigo, with special reference to water analysis, 578.
Watson, W. H., notes on the effect of alcohol on saliva, and on the chemistry of digestion, 539.
Wiggin, John, obituary notice of, 265.
Williams, W. C., the derivatives of diisobutyl, 125.
Williams. See also Carnelley.
Wills, W. L., on the atomic weight of tellurium, 704.
Witt, O. N., on a new class of colouring matters, 356.
—— on colouring matters derived from diazo-compounds, 179.
Wright, C. R. A., the alkaloïds of the veratrums. Part III. The alkaloïds of *Veratrum viride*, 421.
Wright, C. R. A., and A. P. Luff, the alkaloïds of the aconites. Part IV. The alkaloïds of Japanese aconite roots, 387.
—— —— the alkaloïds of the veratrums. Part II. The alkaloïds of *Veratrum album*, 405.
—— —— third report to the Chemical Society on "Researches on some points in chemical dynamics." Section I, 475.
Wright, C. R. A., and A. E. Menke, Appendix to the alkaloïds of the aconites. Part IV. The alkaloïds of Japanese aconite roots, 399.
Wright, C. R. A., and E. H. Rennie, third report to the Chemical Society on "Researches on some points in chemical dynamics." Sections II, III, and IV, 475.
Wright, L. T, on the occurrence of certain nitrogen-acids amongst the products of combustion of coal-gas and hydrogen flames, 42.
Wurtz, Ad., on the constitution of matter in the gaseous state, 1.

INDEX OF SUBJECTS.

TRANSACTIONS. 1879.

A.

Abietene, 296.
Abstractors, instructions to, 276.
Acetylgardenic acid, 693.
Achroodextrin-γ, 778.
Achroodextrin-iii of Musculus and Gruber, 777.
Aconite roots, Japanese, alkaloïds of, 387.
—— —— non-crystalline alkaloïds of, 398.
Aconites, alkaloïds of, Part IV, alkaloïds of Japanese aconite roots, 387.
Air, estimation of carbonic acid and of volatile and suspended organic matter in, 168.
Albinism, vegetable, chemical study of, 33.
Albumin, estimation of, in milk, 531.
Alizarin-blue, 799.
—— —— action of bromine on, 803.
—— —— action of caustic potash on, 803.
—— —— action of chlorine on, 803.
—— —— action of sulphuric acid on, 803.
Alkaloïds, two new, 31.
Alstonine, 31.
Aluminium oxide, action of, on potassic carbonate, 336.
—— —— rehydration of, 798.
Amines, aromatic, progress of oxidation in mixtures of, 357.
Ammonia, action of phosgene on, 793.
—— aurin, 151.
Ammonium carbamate, action of hypochlorites or hypobromites on, 12.
—— fluosilicate, isomorphism of, with potassium fluoxyuranate, 762.
—— fluotitanate, isomorphism of, with potassium fluoxyuranate, 763.
—— fluoxyniobate, isomorphism of, with potassium fluoxyuranate, 762.
—— fluoxyuranate, crystalline form of, 767.
—— fluozirconate, isomorphism of, with potassium fluoxyuranate, 762.
—— iron alum, dissociation of, 811.
Aniline, heat of formation of, 696, 699.
—— pink, or safranine, 728.
—— and orthotoluidine sulphates, oxidation of a mixture of, 728.
—— and paratoluidine sulphates, oxidation of a mixture of, 728.
Anisoïl, β-parabutenyl-, 145.
Anniversary meeting, 257.
Anthracene-blue, 801.
—— —— diacetyl, 804.
Apparatus for gas analysis, 216.
Argol, inferior, determination of tartaric acid in, 341.
Aromatic aldehydes, action of isobutyric anhydride on, 136.
Atomic volume, 464.
Atomic weight of tellurium, 704.
Aurin, 148.
—— action of acetic chloride and acetic anhydride on, 153.
—— combinations of, with acids, 154.
—— tetrabrom-, 152.
—— transformation of, into triphenylpararosaniline, 562.
Azelaïc acid, 684.
—— —— dry distillation of, with lime, 687.
—— —— preparation of, 684.
Azobenzene, ebullition volume of, 472, 473.
—— sulphonic acid, metadioxy-, 183.
Azo colours, 189.

B.

Balance-sheet of the Chemical Society, 270.
—— —— of the Research Fund, 271.
Barium periodate, formation of, 118.
—— pimelate, 687.
Barley-extract, coagulation of, at different temperatures, 652.
Benzene, certain compounds of, with antimony trichloride, &c., 309.
—— specific volume of, 469.
Bismuthous oxide, action of aqueous hydrochloric acid on, 335.

Biuret, action of hypochlorites and hypobromites on, 14.
Boiling points of certain metals and metallic salts, 563.
Borneol (camphol) from colophene, 752, 755.
Boron hydride, 41.
Brass and zinc couple, 575.
Bromine, action of, on sulphur, 16.
Bromo-β-butenylbenzene, 139.
—— —— dibromide of, 139.
β-Butenylbenzene, 138.
—— bromo-, 139.
—— dibromide of, 139.
Butenylcinnamene, 141.
Butenylsalicyl hydride, 145.

C.

Calcium azelate, dry distillation of, 687.
—— pimelate, 686.
Camphene, action of nitric acid on, 757.
—— boiling point of, *foot note*, 744.
—— hydrochloride, inactive, melting point of, 744.
—— inactive, 743, 744.
—— oxidation of, 756.
—— pure inactive, preparation of, 759.
—— ("terebene") hydrochloride, action of alcoholic solution of potassium hydroxide on, 744.
Camphol (borneol) from colophene, 752, 755.
Camphor, inactive, action of nitric acid on, 757.
—— —— from inactive camphene, 756.
Camphoric acid from inactive camphor, 757.
Cane-sugar, action of normal malt-extract on, 609.
Carbon, a new gravimetric method for the estimation of minute quantities of, 159.
—— a new nephelometric method for the estimation of minute quantities of, 163.
—— estimation of, in certain metals, 168.
—— two new methods for the estimation of minute quantities of, and their application to water analysis, &c., 159.
—— and zinc couple, 575.
Carbonic acid and volatile and suspended organic matter in air, estimation of, 168.
—— anhydride, behaviour of hydrogenised copper in, 241.
—— oxide, behaviour of hydrogenised copper in, 242.
Caseïn, estimation of, in milk, 531.
Cevadic acid, 425.
Cevadine, 421.
Chemical dynamics, third report on researches on some points in, 475.
—— systems, conditions affecting the equilibrium of certain, 311.
Chlorethylsulphonic acid, oxidation of ethylene chlorothiocyanate into, 806, 808.
Chlorine, decomposition of, 678.
—— density of, at different temperatures, 676.
Chloroplumbate, 285.
Chlorstannic acid, 524.
Chromium oxide, rehydration of, 797.
Chromium, specific or ebullition volume of, 471.
—— volumetric determination of, 292.
Chromogen of *Purpura Lapillus*, 591.
—— —— colouring matter from, 594.
Chrysoïdine, 180.
Cinchonidine, oxidation of, with permanganate, 189.
Cinchonine, oxidation of, with permanganate, 189.
Coal-gas, occurrence of certain nitrogen acids amongst the products of combustion of, 42.
Coal, new method of determining sulphur in, 785.
—— oxidation of, by means of nitric acid and potassium chlorate, 785.
Cobalt sesquioxide, rehydration of, 796.
Colophene, 745.
—— behaviour of, on distillation, 748.
—— nature of, 733, 750.
—— distillate, examination of, 748, 751.
Colouring matter from the chromogen of *Purpura Lapillus*, 594.
—— —— emission of, 290.
—— —— red, of the *Lithospermum erythrorhizon*, 22.
—— —— allied to mauveine, 717.
—— —— a new class of, 356.
—— —— derived from diazo-compounds, 179.
Conquinine (quinidine), oxidation of, with permanganate, 189.
Copper, hydrogenised, behaviour of, in different gases, 240.
—— magnesium sulphate, examination of, by the time method, 461.
—— oxide, determination of relations existing between rate of reduction of by carbon oxide, time, and temperature, 502.
—— —— —— determination of relations existing between rate of reduction of by hydrogen, time, and temperature, 475.
—— —— experiments on the reduction

of by carbon oxide and hydrogen at comparatively low temperatures, in sealed tubes, 516.
Copper oxide, reduction of, in an atmosphere containing an excess of reducing agent, 521.
—— —— rehydration of, 798.
—— sulphate, examination of, by the time method, 460.
—— zinc couple, action of, on organic bodies. Part IX. Preparation of zinc-methyl, 107.
—— —— couples, dry, and analogous agents, 567.
—— —— sulphate, examination of, by the time method, 462.
Cork, oxidation of, 685.
Couple of compressed metals heated in hydrogen, 568.
—— of non-compressed metals heated in air, 569.
—— of non-compressed metals heated in hydrogen, 569.
Couples of various elements, 571.
Cows' milk, composition of, in health and disease, 530.
—— —— average composition of healthy, 535.
Cumenylcrotonic acid, 137.
Cuminic aldehyde, cumenylangelic acid, 136.
Cupric chloride, action of phosphorus on, 254.
Cupric oxide, reducing power of, 619.
—— —— and zinc couple, 577.
Cuprous oxide and zinc couple, 576.

D.

Dahlia, or ethylated mauveine, 721.
Decomposition of the simple weight χ effected by Victor Meyer, 673.
Dekamali gum, extraction of gardenin from, 688.
—— —— terpene from, 691.
α-Dextrin, 640, 772.
Dextrins, 771.
β-Dextrins, 774.
Dextrose, a product of the action of malt-extract on starch? 648.
Diacetylanthracene-blue, 804.
Diamidoazobenzene, 180.
Diastase, nature of, 650.
Diazo-compounds, colouring matters derived from, 179.
Diethyl-sulphone (sulphuric diethoxide), 245.
Digestion, chemistry of, 539.
Di-isobutyl, action of chlorine on, 126.
—— alcohols of, 127.
Di-isobutyl, derivatives of, 125.
—— iso-octoate, 129.
Di-isobutylketone, 130.
αα-Dinaphthyl, preparation of, 225.
ββ-Dinaphthyl, preparation of, from a mixture of naphthalene and bromnaphthalene, 230.
Dinaphthyls, isomeric, 224.
—— —— determinations of the vapour-densities of, 226.
Dipicoline, heat of formation of, 696, 701.
Duboisine, 32.
Dyeing, researches in. Part I. Silk and rosaniline, 26.
—— researches on emission of colouring matter, 290.

E.

Ebullition-volumes, 468.
Erbium, 111.
Erythro-dextrin, 640.
Ethyl iodide, action of, on mauveine, 721.
—— iso-octoate, 129.
—— nitrate, ebullition-volume of, 472, 473.
Ethylmauveine, hydrochloride of, 723.
—— —— nitrate of, 724.
—— —— platinum salt of, 723.
—— —— platinum salt of, analysis of, 723.
Ethylsulphinic acid, barium salt of, 246.
Ethylsulphonic acid, 133.
—— —— chlor-, oxidation of ethylene chlorothiocyanate into, 806, 808.
Ethylated mauveine, 721.
Ethylene chlorothiocyanate, 806.
—— —— oxidation of, into chlorethylsulphonic acid, 806, 808.
Evaporating dish, suggested use of a metallic collapsive, in water analysis, 165.

F.

Faraday lecture, 1.
Ferric oxide, action of, on potassic carbonate, 337.
Ferro-manganese, determination of manganese in, 371.
Filtration, remarks on, 344.
Fractional distillation of substances which are not miscible one with the other, 549.
—— —— of substances which mix in

all proportions, and between which no combination of any kind is known to take place, 550.
Fractional distillation, theory of, 544, 547.
Furfuraldehyde, heat of formation of, 696, 702.

G.

Gadolinite, analyses of, 117.
Galactin, 532.
Gardenia lucida, terpene from, 691.
Gardenic acid, 691.
—— —— acetyl-, 693.
—— —— diacetyl-, 694.
Gardenin, 688.
—— acetyl derivatives of, 695.
—— action of nitric acid on, 691.
—— action of stannous chloride on, 695.
—— benzoyl derivatives of, 695.
—— extraction of, from Dekamali gum, 688.
Gas analysis, apparatus for, 216.
Gas, combustible, some points in the analysis of, and in the construction of apparatus, 213.
Glycerol, heat of formation of, 696, 702.
Gold nugget from South America, 427.
—— and zinc couple, 575.
Granulose, 610.
Guanidine carbonate, action of hypochlorites and hypobromites on, 14.
—— nitrate, action of hypochlorites and hypobromites on, 14.
—— sulphate, 794.
Gum, Dekamali, extraction of gardenin from, 688.

H.

Heat, action of, on malt extract, 606.
—— action of, on mauveine, 721.
—— action of, on telluric acid, 709.
—— amount of, evolved by the combustion of sulphur, 697.
—— of formation of aniline, picoline, toluidine, lutidine, pyridine, dipicoline, pyrrol, glycerol, and furfuraldehyde, 696.
Heptane from *Pinus Sabiniana*, 296.
—— —— optical activity of, 302.
—— —— refractive index of, 301.
—— —— specific gravity of, 299.
—— —— surface tension of, 305.
—— —— thermal expansion of, 300.
—— —— viscosity of, 302.
Hydrates, examination of, by the time method, 456.
Hydrocarbon, $C_{10}H_{20}$, 745.
Hydrocarbons of the formula $C_{10}H_{16}$, action of sulphuric acid on, 733.
Hydrogardenic acid, 694.
Hydrogen in the nascent and occluded conditions, action of, 172.
—— nascent, action of, on nitric acid, 172.
—— action of sulphuric acid on, 176.
—— occluded, action of, on nitric acid, 175.
—— action of, on sulphuric acid, 177.
—— occlusion of, by copper, 232.
—— occurrence of certain nitrogen acids amongst the products of combustion of, 42.
Hypobromites, actions of, on some nitrogen-compounds, 12.
Hypochlorites, actions of, on some nitrogen-compounds, 12.

I.

Indigo-purpurin, 528.
Indirubin, 528.
Induline, 188.
Iodine, action of chlorine on, 169.
—— reactions during the transformation of starch with malt-extract, 641.
Iron-magnesium sulphate, examination of, by the time method, 459.
—— oxide, rehydration of, 798.
Isobutyric anhydride, action of, on the aromatic aldehydes, 136.
Isomorphism, certain cases of, 760.
Iso-octoic acid and its salts, 128.
β-Isopropylbutenylbenzene, 141.
Isoterebenthene, so-called, 755.

J.

Japaconine, 393.
—— action of benzoic anhydride on, 396.
Japaconitine, 393.
—— action of benzoic anhydride on, 396.
—— action of concentrated tartaric acid solution on, 394.
—— action of saponifying agents on, 394.
Japanese aconite roots, alkaloïds of, 387.
—— —— —— non-crystalline alkaloïds of, 398.
Jervine, 407, 410, 416, 420, 421.
—— and its congeners, attempts to obtain derivatives of, 419.

L.

Lactochrome, 532.
Lacto-proteïn, estimation of, in milk, 532.
Lead, quantitative estimation of, 285.
—— chloride, action of chlorine on, 284.
—— tetrachloride, 282.
Lees, determination of tartaric acid in, 341.
Leucaurin, 150.
Liquids, volumes of, at their boiling point, obtainable from unit-volumes of their gases, 463.
Lithia, determination of, by sodium phosphate, 18.
—— micas, composition of, 19.
Lithospermum erythrorhizon, red colouring mattter of, 22.
Lutidine, heat of formation of, 696, 700.

M.

Magnesia alba, action of amorphous vanadic acid on, 714.
Magnesium-copper sulphate, examination of by the time method, 461.
—— iron sulphate, examination of, by the time method, 459.
—— zinc sulphate, examination of, by the time method, 457.
—— vanadates, 713.
—— and platinum couple, 576.
Malt-extract, action of heat on, 606.
—— action of, on bruised starch, 624.
—— action of, on maltose, 621.
—— action of, on starch, 621.
—— action of, on starch-paste, 626.
—— action of, on starch-paste at elevated temperatures, 630.
—— action of, on the transformed products of starch, 778.
—— normal, action of, on cane-sugar, 609.
—— influence of neutralisation on the action of, on starch, 642.
—— is dextrose a product of the action of, on starch? 648.
—— modification of the action of, on starch-paste by heat, 631.
—— previously heated, action of, on starch-paste, 629.
Maltose, 771.
—— action of dilute sulphuric acid on, 619.
—— action of malt-extract on, 621.
—— cupric oxide reducing power of, 619.
—— properties of, 618.
—— solution, density of, 618.
—— specific rotatory power of, 618.
Manganese, a method of precipitating, entirely as dioxide, and its application to the volumetric determination of, 365.
—— dichloride, solution of manganese dioxide in presence of, 669.
—— dioxide, action of dilute hydrochloric acid on, 666.
—— —— action of hydrochloric acid on, 654.
—— —— influence of temperature on the action of hydrochloric acid on, 670.
—— —— Nicklès' experiments on the action of hydrochloric acid on, 672.
—— —— secondary reactions of hydrochloric acid on, 665.
—— sesquichloride, attempts to obtain a double salt of, 671.
—— slags, &c., determination of manganese in, 372.
Manganiferous iron ores, determination of manganese in, 368.
Manganoso-manganic chloride, action of an excess of hydrochloric acid on, 668.
—— —— —— —— influence of temperature in the preparation of, 670.
—— —— —— —— table showing the effect of water on the stability of, 667.
Mass, influence of, in affecting the equilibrium of certain chemical systems, 313, 324.
Matter, constitution of, in the gaseous state, 1.
Mauveine acetate, 717.
—— acid hydrochloride of, 720.
—— action of acids on solutions of, 720.
—— action of ethyl iodide on, 721.
—— action of heat on, 721.
—— action of sulphuric acid on, 721.
—— analysis of the platinum salt of, 719.
—— and allied colouring matters, 717.
—— colouring matters allied to, 717.
—— ethylated, 721.
—— ethyl-, dichloride of, 723.
—— —— nitrate of, 724.
—— —— platinum salt of, preparation of, 723.
—— hydriodide, 721.
—— hydrochloride, analysis of, 718.
—— oxidation of, 728.
—— platinum salt of, action of water on, 720.
—— quantitative combination of, with hydrochloric acid, 719.
—— sulphate, 717.
Mercury, quantitative assay of the ores and compounds of, by the blowpipe, 207.
Metadiamidoazobenzene, hydrochloride of, 181.

Metadioxyazobenzene-sulphonic acid, 183.
Metallic oxides, rehydration of, 796.
—— salts, boiling points of certain, 563.
Metals, boiling points of certain, 563.
—— estimation of carbon in certain, 168.
Milk alkaloïds, isolation of, 531.
—— bitter principle in, 533.
—— cows', average composition of healthy, 535.
—— from diseased cows, composition of, 535—539.
—— quantitative estimation of the different constituents of, 534.
Molecular volume, 464.
Monobromophthalic anhydride, 792.
Monoxyazobenzene-sulphonic acid, sodium salt of, 184.

N.

Naphthalene, action of carbon bisulphide on, at a red heat, 229.
—— action of carbon tetrachloride on, at a red heat, 229.
—— action of chloroform on, at a red heat, 229.
—— certain compounds of, with antimony trichloride, &c., 309.
β-Naphthol, bromine-derivatives of, 789.
Naphthol, β-monobromo-, 789.
—— β-tetrabromo-, 791.
Nascent and occluded conditions, action of substances in the, 172.
Nicklès' experiments on the action of hydrochloric acid on manganese dioxide, 672.
Nitric acid, action of nascent hydrogen on, 172.
—— —— action of occluded hydrogen on, 175.
—— —— determination of, as nitric oxide by means of its action on mercury, 375.
—— —— determination of, by means of indigo, with special reference to water analysis, 578.
—— —— influence of chlorides in the determination of, as nitric oxide, by means of its action on mercury, 377.
—— —— influence of organic matter in the determination of, as nitric oxide, by means of its action on mercury, 379.
Nitrification, 429.
—— influence of cane-sugar on the process of, 434.
Nitrification, influence of light on the process of, 431, 449, 451.
—— influence of tartrates on the process of, 433.
—— influence of temperature on the process of, 436.
—— of nitrites, 452.
—— possibility of, without seeding, 452.
Nitrites, nitrification of, 452.
Nitrobenzene, ebullition-volume of, 472, 473.
Nitrogen-acids, occurrence of, amongst the products of combustion of coal-gas and hydrogen flames, 42.
—— compounds, action of hypochlorites and hypobromites on some, 12.
—— —— ebullition-volume of, 472.
—— behaviour of hydrogenised copper in, 242.
—— binoxide, density of, 677.
—— tetroxide, density of, at different temperatures, 676.

O.

Obituary notices, 265.
Ortho-butenylphenol, 142.
Orthotoluidine sulphate, action of potassic dichromate on, 728.
—— and aniline sulphates, oxidation of a mixture of, 728.
Oxamide, action of alkaline hypobromite on, 119.
Oxides, action of, on salts, 336.
—— metallic, rehydration of, 796.
Oxygen, specific or ebullition volumes of, 470.
Oxy-α-naphthyl, 184.
Oxy-β-naphthyl-azophenyl-sulphonic acid, sodium salt of, 184.

P.

Palladium and zinc couple, 575.
β-para-butenylanisoïl, 145.
Parabutenylphenol, 145.
Parasafranine and its salts, 729.
—— nitrate of, 730.
Paratoluidine sulphate, action of potassic dichromate on, 728.
—— and aniline sulphates, oxidation of a mixture of, 728.
Pattinson's method of determining manganese, 365.
Peonin or red corallin, 148.
Phenanthrene-quinone, acetyl-derivative of the action of zinc-ethyl on, 527.
—— —— action of zinc ethyl on, 526.

Phenol, ortho-butenyl-, 142.
—— parabutenyl-, 145.
Phenylamidoazobenzene, 185.
—— action of amylic nitrite and acetic acid on, 187.
Phenylangelic acid, 136.
Phenylcrotonic acid, 137.
Phosgene, action of, on ammonia, 793.
Picoline, heat of formation of, 696, 699.
α-Pimelic acid, aldehyde of, 686.
Platinum and magnesium-couple, 576.
—— and zinc-couple, 575.
Plumbic tetrethide, 244.
—— —— action of sulphurous anhydride on, 244.
Potable waters, processes for determining the organic purity of, 46.
Potassium chlorate, action of hydrogenised copper on, 240.
—— ferrocyanide, action of alkaline hypobromite on, Part II, 123.
—— fluoxyniobate, isomorphism of, with potassium fluoxyuranate, 761.
—— fluoxyuranate, monoclinic, analysis of, 767.
—— —— monoclinic, crystalline form of, 766.
—— —— monoclinic, preparation of, 763.
—— —— quadratic, analysis of, 764.
—— —— quadratic, crystalline form of, 763.
—— —— quadratic, preparation of, 763.
—— —— triclinic, analysis of, 766.
—— —— triclinic, crystalline form of, 764.
—— —— triclinic, preparation of, 763.
—— fluozirconate, isomorphism of, with potassium fluoxyuranate, 762.
—— and tellurium, bromide of, 711.
Precipitation, remarks on, of potassium bitartrate, 349.
Pseudojervine, 407, 413, 419, 421, 422.
Pseudo-mauveine, 726.
—— —— hydrochloride of, 726.
—— —— hydrochloride of, analysis of, 726.
—— —— platinum salt of, 727.
Punicin, 595.
Purple of the ancients, 589.
Purpura Lapillus, chromogen of, 591.
—— —— colouring matter from, 594.
Pyridine, heat of formation of, 696, 700.
—— series of bases, ebullition volume of, 472, 473.
Pyrrol, ebullition volume of, 472, 473.
—— heat of formation of, 696, 701.
Pytalin, 540.

Q.

Quinidine (conquinine), oxidation of, with permanganate, 189.
Quinine and the allied alkaloïds, decomposition-products of, 189.
—— oxidation of, with permanganate, 189.
Quinones, action of organo-zinc compounds on, 526.

R.

Red corallin or peonin, 148.
Red lead, action of hydrochloric acid on, 283.
Rosaurin, 159.
Rubijervine, 407, 412, 420, 422.

S.

Safranine, 682.
—— or aniline pink, 728.
—— para-, and its salts, 729.
—— —— nitrate of, 730.
Salicylic acid, use of, in arresting the transformation of starch, 630.
Saliva, action of, on a mixture of starch and alcohol, 541.
—— action of, on starch, 541.
—— effect of alcohol on, 539.
Salts, action of oxides on, 336.
—— anhydrous, rehydration of, 799.
—— isomorphous, action of, in exciting the crystallisation of supersaturated solutions of each other, 196.
—— metallic, boiling points of certain, 563.
—— mixed, experiments on supersaturated solutions of, 196.
Sesquistanethylic acetate, 135.
Silver pimelate, 686.
—— and zinc-couple, 574.
Sodium thio-tellurite, 705.
Solutions, supersaturated, action of isomorphous salts in exciting the crystallisation of each other, 196.
Specific volume, 464.
Spiegeleisen, determination of manganese in, 371.
Stannic ethide, 130.
—— —— action of sulphurous acid on, out of contact with air, 134.
—— —— action of sulphurous anhydride on, 131.
Stannic oxide, action of, on potassic carbonate, 338.

Stantriethylic acetate, 132.
— ethylsulphonate, 134.
— hydrate, 132.
— sulphate, 132.
Starch, action of malt-extract on, 621.
— action of malt-extract on, at different temperatures, 632.
— action of malt-extract on the transformed products of, 778.
— action of saliva on, 541.
— and its transformations, 596.
— influence of neutralisation on the action of malt-extract on, 642.
— iodine reactions during the transformation of, with malt-extract, 641.
— is dextrose a product of the action of malt-extract on? 648.
— modification of the action of malt-extract on, by heat, 631.
— molecular transformations of, 644.
— nature and properties of, 610.
— phenomena of the metastasis of, 622.
— soluble, 615, 772.
— soluble, action of potash on, 617.
— transformation-products of, 770.
— ungelatinised, action of malt-extract on, 621.
— use of salicylic acid in arresting the transformation of, 630.
Starch-cellulose, nature and properties of, 610.
Starch-dextrose, specific rotatory power of, 620.
Starch-paste, 613.
— — action of potash on, 616.
— — action of malt-extract on, 626.
— — action of malt-extract on, at elevated temperatures, 630.
— — action of previously heated malt-extract on, 629.
— — optical activity of, 616.
— — viscosity of, 614.
Steel, determination of manganese in, 372.
Suberic acid, 684.
— — dry distillation of, with lime, 687.
— — preparation of, 684.
Suberone, action of nitric acid on, 686.
— analysis of, 685.
— pure, preparation of, 685.
— vapour-density of, 686.
Substances, examination of, by the time method. Part I. Hydrates, 456.
Sulphur, amount of heat evolved by the combustion of, 697.
— in coal, new method of determining, 785.
— specific or ebullition volume of, 471.
Sulphuric acid, action of nascent hydrogen on, 176.
— — action of occluded hydrogen on, 177.
Sulphuric diethoxide (diethyl sulphone), 245.
Surface addition, influence of, in affecting the equilibrium of certain chemical systems, 319.

T.

Tartaric acid, determination of, in lees and inferior argol, 341.
Taurine, 810.
Telluric acid, action of heat on, 709.
Tellurium, atomic weight of, 704.
— conversion of tellurium dioxide into, 709.
— dioxide, 708, 711.
— — conversion of, into tellurium, 709.
— oxidation of, by aqua-regia, 710.
— oxidation of, with nitric acid, 708.
— pure, preparation of, 704.
— potassium bromide, 711.
Temperature, influence of, compared with that of mass in affecting the equilibrium of certain chemical systems, 331.
— — in affecting the equilibrium of certain chemical systems, 329.
Terebene, crude, examination of, 742.
— nature of, 733.
— preparation of, 734, 737.
— (camphene) hydrochloride, action of alcoholic solution of potassium hydroxide on, 744.
— hydrochloride, melting point of, 744.
Terpene from Dekamali gum (*Gardenia lucida*) 691.
Terpenes, 734.
— action of hydrochloric acid gas on, 754.
— action of sulphuric acid of various degrees of concentration on, 734.
— examination of the volatile optically inactive product of the action of concentrated sulphuric acid on, 742.
— examination of the volatile inactive product of the action of dilute sulphuric acid on, 747.
Terpilene, 745, 747, 754.
— dihydrochloride, 746, 747.
— monohydrochloride, 754.
— nature of, 733.
Terpin, 286.
Terpinol, 287.
— action of sulphuric acid on, 289.

Terpinol, dihydrochloride, 288.
Terpinols, natural, 289.
Tetrabromaurin, 152.
Time, influence of, in affecting the equilibrium of certain chemical systems, 316, 326.
Time method, examination of substances by. Part II. Hydrates, 456.
Toluidine, heat of formation of, 696, 700.
—— ortho-, and aniline sulphates, oxidation of a mixture of, 728.
—— para-, and aniline sulphates, oxidation of a mixture of, 728.
—— sulphate, ortho-, action of potassic dichromate on, 728.
—— sulphate, para-, action of potassic dichromate on, 728.
Toluylene blue, leuco-, compound of, 361.
—— —— reduction of, 360.
Tricarbopyridenic acid, 194.
Trimethylpararosaniline, transformation of aurin into, 562.
Triphenylrosaniline, 159.
Tropæoline O, 184.
—— OO, 187.
—— OOO, No. 1, 184.
—— OOO, No. 2, 184.
—— OOOO, 184.
—— Y, 184.
Turpentine, action of hydrochloric acid gas on, 754.
—— action of sulphuric acid on, 734.
—— examination of the volatile inactive product of the action of dilute sulphuric acid on, 747.

U.

Urea, action of alkaline hypobromite on, 122.

V.

Vegeto-alkaloïds, two new, 31.
Veratralbine, 415, 418, 420, 422, 424.
Veratria, 421, 424.
Veratroidia, 424.
Veratrum album, alkaloïds of, 405.
—— *viride*, alkaloïds of, 421.
Veratrums, alkaloïds of. Part II. Alkaloïds of *Veratrum album*, 405.
—— —— Part III. Alkaloïds of *Veratrum viride*, 421.

W.

Water, action of the halogens on, 255.
—— action of selenium, tellurium, and phosphorus on, 253.
—— action of sulphur on, 249.
—— analysis, special application of two new methods for the estimation of minute quantities of carbon to, 165.
—— —— suggested use of a metallic collapsive evaporating dish in, 165.
—— decomposition of, by certain metalloïds, 249.
Waters, potable, processes for determining the organic purity of, 46.
Weight χ, simple, decomposition of, effected by Victor Meyer, 673.

Y.

Yttrium, 111.

Z.

Zinc-ethyl, preparation of, by the copper-zinc couple, 571.
—— methiodide, 108.
—— methyl, preparation of, 107.
—— copper sulphate, examination of, by the time method, 462.
—— magnesium sulphate, examination of, by the time method, 457.
—— and brass couple, 575.
—— and carbon couple, 575.
—— and cupric oxide couple, 577.
—— and cuprous oxide couple, 576.
—— and gold couple, 575.
—— and palladium couple, 575.
—— and platinum couple, 575.
—— and silver couple, 574.

HARRISON AND SONS, PRINTERS IN ORDINARY TO HER MAJESTY, ST. MARTIN'S LANE.

ERRATA.

The asterisk in the second column indicates that the line is counted from the bottom.

Page.	Line.	Error.	Correction.
1	9	Ordinaire	Honoraire
3	28	important point	important point of my lecture
7	20	61°	65°
376	7	cap	cup
448	13	p. 376	p. 384
454	22	E3	E'3
562	13	Triphenylpararos-aniline	Trimethylpararosaniline
589	12*	Capillus	Lapillus
591	11*		
592	18*		
594	4 and 11		
677	3	1·02	1·92
,,	14	2·6°	2·6
,,	15	1·6°	1·6
685	25	Spiegal	Spiegel
,,	8*	products	product
,,	7	consist	consists
687	3	0·323	0·023
,,	14*	suberic	sebacic

University of Michigan